



4-5(d). (Doc. No. 106.) On March 10, 2016, the Court held a claim construction hearing. Upon consideration of the parties' arguments, and for the reasons stated herein, the Court adopts the constructions set forth below.

### **OVERVIEW OF THE PATENTS**

Plaintiffs allege Defendants infringe claims 31, 35, 36, 43, 56, and 60 of the '012 Patent, claims 1, 5, 43, 72, 83, 103, 104, 111, and 125 of the '107 Patent, claims 1, 31, 59, 69, 72, 73, 106, 142, and 145 of the '760 Patent, and claims 1, 7, 26, 40, and 69 of the '838 Patent. (Doc. No. 99, at 2.) Plaintiffs contend that “[a]ll four patents share, in substance, a common specification and disclose inventions related to managing devices that connect to a wired network.” (Doc. No. 97, at 1.) Specifically, the '107 Patent is a continuation of the '012 Patent, and the '760 Patent and the '838 Patent are continuations of the '107 Patent.

For reference, background on the '012 Patent is provided. The '012 Patent is titled “System and Method for Adapting a Piece of Terminal Equipment,” and relates to tracking of devices that are connected to a wired network. *See generally* '012 Patent. More specifically, the '012 Patent describes permanently identifying an “asset,” such as a computer, “by attaching an external or internal device to the asset and communicating with that device using existing network wiring or cabling.” '012 Patent at 1:67–2:2. The '012 Patent refers to that device as the “remote module.” *Id.* at 3:22–26. The asset can then be managed, tracked, or identified by using the remote module to communicate a unique identification number, port ID, or wall jack location to the network monitoring equipment, or “central module.” *Id.* at 6:7–13, 8:66–9:4. The '012 Patent further discloses that “asset identification” may be done in a way “that does not use existing network bandwidth.” *Id.* at 3:10–12. These concepts are reflected in the patents' asserted claims, and independent claim 31 is set forth below for reference:

31. An adapted piece of Ethernet data terminal equipment comprising:  
an Ethernet connector comprising a plurality of contacts;  
and  
at least one path coupled across selected contacts, the selected contacts  
comprising at least one of the plurality of contacts of the Ethernet  
connector and at least another one of the plurality of contacts of the  
Ethernet connector,  
wherein distinguishing information about the piece of Ethernet data  
terminal equipment is associated to impedance within the at least  
one path.

'012 Patent at 18:62–19:5 (Claim 31).

There are six disputed terms or phrases in the asserted claims. This Court previously construed disputed terms in the '012 Patent in *Chrimar Systems, Inc., et al. v. Alcatel-Lucent, Inc., et al.*, No. 6:13-CV-880, (Doc. Nos. 92 (E.D. Tex. Oct. 22, 2014), 99 (Jan. 7, 2015) & 102 (Jan. 16, 2015)), together with the related case of *Chrimar Systems, Inc., et al. v. AMX, LLC*, No. 6:13-CV-881 (collectively, “*Chrimar I*”). For purposes of these actions, the Court has ruled that those constructions and rulings are the Court’s constructions and rulings in the present cases. (Doc. No. 117.)

### **CLAIM CONSTRUCTION PRINCIPLES**

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). The Court examines a patent’s intrinsic evidence to define the patented invention’s scope. *Id.* at 1313-1314; *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). Intrinsic evidence includes the claims, the rest of the specification and the prosecution history. *Phillips*, 415 F.3d at 1312-13; *Bell Atl. Network Servs.*, 262 F.3d at 1267. The Court gives claim terms their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1312-13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361,

1368 (Fed. Cir. 2003). Claim language guides the Court’s construction of claim terms. *Phillips*, 415 F.3d at 1314. “[T]he context in which a term is used in the asserted claim can be highly instructive.” *Id.* Other claims, asserted and unasserted, can provide additional instruction because “terms are normally used consistently throughout the patent.” *Id.* Differences among claims, such as additional limitations in dependent claims, can provide further guidance. *Id.*

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). In the specification, a patentee may define his own terms, give a claim term a different meaning than it would otherwise possess, or disclaim or disavow some claim scope. *Phillips*, 415 F.3d at 1316. Although the Court generally presumes terms possess their ordinary meaning, this presumption can be overcome by statements of clear disclaimer. See *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed. Cir. 2001). This presumption does not arise when the patentee acts as his own lexicographer. See *Irdeto Access, Inc. v. EchoStar Satellite Corp.*, 383 F.3d 1295, 1301 (Fed. Cir. 2004).

The specification may also resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. For example, “[a] claim interpretation that excludes a preferred embodiment from the scope of the claim ‘is rarely, if ever, correct.’” *Globetrotter Software, Inc. v. Elam Computer Group Inc.*, 362

F.3d 1367, 1381 (Fed. Cir. 2004) (quoting *Vitronics Corp.*, 90 F.3d at 1583). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988); *see also Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patentee may define a term during prosecution of the patent. *Home Diagnostics Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”). The well-established doctrine of prosecution disclaimer “preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution.” *Omega Eng’g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). The prosecution history must show that the patentee clearly and unambiguously disclaimed or disavowed the proposed interpretation during prosecution to obtain claim allowance. *Middleton Inc. v. 3M Co.*, 311 F.3d 1384, 1388 (Fed. Cir. 2002); *see also Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 994 (Fed. Cir. 2003) (“The disclaimer . . . must be effected with ‘reasonable clarity and deliberateness.’”) (citations omitted)). “Indeed, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover.” *Spectrum Int’l v. Sterilite Corp.*, 164 F.3d 1372, 1378-79 (Fed. Cir. 1988) (quotation omitted). “As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.” *Omega Eng’g, Inc.*, 334 F.3d at 1324.

Although “less significant than the intrinsic record in determining the legally operative meaning of claim language,” the Court may rely on extrinsic evidence to “shed useful light on the relevant art.” *Phillips*, 415 F.3d at 1317 (quotation omitted). Technical dictionaries and

treatises may help the Court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but such sources may also provide overly broad definitions or may not be indicative of how terms are used in the patent. *Id.* at 1318. Similarly, expert testimony may aid the Court in determining the particular meaning of a term in the pertinent field, but “conclusory, unsupported assertions by experts as to the definition of a claim term are not useful.” *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

In patent construction, “subsidiary fact finding is sometimes necessary” and the court “may have to make ‘credibility judgments’ about witnesses.” *Teva v. Sandoz*, 135 S.Ct. 831, 838 (2015). In some cases, “the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Id.* at 841. “If a district court resolves a dispute between experts and makes a factual finding that, in general, a certain term of art had a particular meaning to a person of ordinary skill in the art at the time of the invention, the district court must then conduct a legal analysis: whether a skilled artisan would ascribe that same meaning to that term *in the context of the specific patent claim under review*.” *Id.* (emphasis in original). When the court makes subsidiary factual findings about the extrinsic evidence in consideration of the “evidentiary underpinnings” of claim construction, those findings are reviewed for clear error on appeal. *Id.*

## **DISCUSSION**

The parties dispute the meaning of the following claim terms, which are set forth herein:

**I. “To ...” (’107 Patent, Claims 1, 43, 104, 111; ’760 Patent, Claims 1, 69, 73, 142; ’838 Patent, Claims 1, 7, 26, 40, 69)**

Plaintiffs’ Proposal	Defendants’ Proposal
<p>No construction is necessary as the term should be afforded its plain and ordinary meaning.</p> <p>To the extent that the Court finds that construction is required, Plaintiffs contend that the plain and ordinary meaning of “to _____” in the context of these claims is “configured, made, or designed to _____”</p> <p>These phrases are not means-plus-function limitations per 35 U.S.C. § 112, ¶ 6.</p>	<p>The action claimed must occur to meet the limitation.</p> <p>In the alternative, the infinitive language of each asserted claim should be construed in accordance with 35 U.S.C. § 112, ¶ 6 to require the following structure to perform the claimed function(s) as follows:</p> <p>’107 patent, claims 1, 43, 104, 111: an isolation power supply, signal transmitter, Manchester encoder, and firmware kernel</p> <p>’760 patent, claims 1, 69, 73 &amp; 142: For the recited BaseT Ethernet terminal equipment functions: an isolation power supply, signal transmitter, Manchester encoder, and firmware kernel For the recited central BaseT Ethernet equipment/central network equipment functions: isolation power supply; signal modulator, Manchester decoder, signal receiver, and firmware kernel</p> <p>’838 patent, claims 1, 7, 26, 40, 69: isolation power supply, signal modulator, Manchester decoder, signal receiver, and firmware kernel</p>

In the briefing, Plaintiffs argued that the “to” phrases should have their plain and ordinary meaning and argued that Defendants’ proposal that the action must occur for the limitation to be met is “nonsensical.” (Doc. No. 97, at 4.) Defendants argued that “[t]he prosecution history unambiguously demonstrates that it was not merely the prior art structure, a path coupled across the contacts of an Ethernet connector, but rather ‘using’ the path to draw current that comprises identifying information that was asserted as the basis for overcoming the prior art.” (Doc. No. 100, at 12–13.) In the alternative, Defendants requested that the Court “construe the infinitives as means-plus-function elements in accordance with 35 U.S.C. § 112, ¶ 6.” *Id.* at 14; *see id.* at 15–21. Plaintiffs argued that “(1) infinitives serve as nouns, not as action verbs, and they can be

used to indicate purpose; (2) apparatus claims cover what a device is, not what it does; (3) functional language in apparatus claims rarely introduces method steps; and (4) Defendants' proposed construction violates the principle of claim differentiation." (Doc. No. 108, at 1.) Alternatively, Plaintiffs argued that Defendants cannot overcome the presumption against means-plus-function treatment for the terms at issue because "the claimed structures are sufficient for performing the claimed functions." *Id.* at 3. At the hearing, it was apparent that the parties' main dispute is whether the "to" phrases should be construed as means-plus-function terms pursuant to 35 U.S.C. § 112, ¶ 6.

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, Paragraph 6, provides that a structure may be claimed as a "means . . . for performing a specified function" and that an act may be claimed as a "step for performing a specified function." *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttable presumption that § 112, ¶ 6 applies when the claim language includes "means" or "step for" terms, and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326; *Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *See Media Rights Techs., Inc. v. Capital One Fin. Corp.*, No. 2014-1218, 2015 U.S. App. LEXIS 15767, at \*10 (Fed. Cir. Sept. 4, 2015) (§ 112, ¶ 6 does not apply when "the claim language, read in light of the specification, recites sufficiently definite structure" (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349; *Robert Bosch, LLC v. Snap-On Inc.*, 769



F.3d 1094, 1099 (Fed. Cir. 2014))); *Williamson*, 792 F.3d at 1349 (§ 112, ¶ 6 does not apply when “the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure”); *Masco Corp.*, 303 F.3d at 1326 (§ 112, ¶ 6 does not apply when the claim includes an “act” corresponding to “how the function is performed”); *Personalized Media Commc’ns, L.L.C. v. International Trade Comm’n*, 161 F.3d 696, 704 (Fed. Cir. 1998) (§ 112, ¶ 6 does not apply when the claim includes “sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term ‘means.’” (quotation marks and citation omitted)).

Here, Defendants generally identify the following phrases in the asserted claims of the patents-in-suit that use the infinitive “to \_\_\_\_”: “to draw different magnitudes of DC current flow”; “to detect at least two different magnitudes of the current flow”; “to detect current flow”; “to detect different magnitudes of DC current flow”; “to detect distinguishing information within the DC current”; “to distinguish one end device from at least one other end device”; “to distinguish one network object from at least one other network object”; “to distinguish the piece of Ethernet terminal equipment from at least one other piece of Ethernet terminal equipment”; “to distinguish the powered-off end device from at least one other end device”; “to distinguish the piece of BaseT Ethernet terminal equipment from at least one other piece of BaseT Ethernet terminal equipment”; “to control application of at least one electrical condition”; “to control application of the at least one DC power signal”; “to convey information about the piece of Ethernet terminal equipment”; “to convey information about the powered-off end device”; “to provide at least one DC current”; and “to result from at least one condition applied to.” (Doc. No. 100, at 11 n.10).

With respect to the '107 Patent, Defendants claim the “to” infinitives attribute the functions “to draw...”, “to result...”, and “to convey...” to the word “end device.” (Doc. No. 100, at 15.) Defendants contend that this is a nonce word that is equivalent to the use of means. *Id.* In this case, the parties do not dispute that the “end device” claimed in the '107 Patent was known in the art. What is claimed in the '107 Patent is not an inventive “end device,” but a known “end device” configured in an inventive way. *See* '107 Patent at 22:17–29 (Claim 104). Similarly, with respect to the '838 and '760 Patents, Defendants identify “central piece of equipment” and “terminal equipment” as nonce words to carry out the functions of “to detect...” and “to control...”, and “to distinguish...” (Doc. No. 100, at 18–20.) Yet again, Defendants do not dispute that these claim terms were known structures in the art, and indeed previously proposed a construction for “terminal equipment” they contended would be understood by a person of ordinary skill in the art when reading the claims. (Case No. 6:13-cv-880 (“device at which data transmission originates or terminates and that is capable of Ethernet communication”).)<sup>2</sup>

Where a claim term has an understood meaning in the art, it recites sufficient structure. *Williamson*, 792 F.3d at 1349; *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002). In this regard, the instant cases are distinguishable from *Williamson*. In *Williamson*, the presumption against means-plus-function claiming was overcome where the patent claimed a structural-sounding word (“distributed learning control module”) that had no settled meaning in

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<sup>2</sup> Defendants’ expert repeatedly discusses the “Ethernet terminal equipment” and “end device” interchangeably and without any question as to the understanding of these terms in the art. *See, e.g.*, Seifert Decl. at ¶¶ 24, 131, 132 (“In the real-world environment for Ethernet data terminal equipment (e.g., the end devices claimed in the Patents-in-Suit), any DC current drawn by the device will always correlate to a draw of power by the device, related to that current.” ... “Claim 103 of the '107 patent and claims 72 and 145 of the '760 patent address the claimed Ethernet terminal equipment. Claim 104 calls for an “end device.” Both are claimed to draw DC current as supported by the specification.” ... “The claims are unambiguous with respect to the meaning of ‘powered-off Ethernet terminal equipment’ and ‘powered off end device.’”)

the art. *Williamson*, 792 F.3d at 1351. Here, the claimed “end device” or “terminal equipment” indisputably had known meaning in the art and in the context of the patents-in-suit. *See* ’107 Patent Abstract, ’838 Patent Abstract, ’760 Patent Abstract. Moreover, *Williamson* did not do away with the rebuttable presumption that terms without means are not subject to § 112, ¶ 6, but merely found that presumption should not be characterized as “strong.” *Id.* at 1349. Here, Defendants have failed to overcome the presumption against means-plus-function claiming because they have failed to show that the terms in question do not recite sufficient structure. Therefore, the Court finds these terms are not governed by 35 U.S.C. § 112, ¶ 6.

Having found the infinitive phrases not subject to § 112, ¶ 6, the Court turns to the parties’ dispute regarding whether the action claimed must be performed to meet the limitation. Here, Defendants contend that because the claims do not recite terms such as “configured, made, or designed to,” they must actually carry out the action claimed to be met. (Doc. No. 100, at 12.) Yet, the absence of such language in the claim does not unambiguously mean the claims require actual performance. Indeed, it is often the case that claims recite functional language and describe what apparatuses do without claiming use of the apparatus. *See, e.g., Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (noting that “functional language” is permissible in claims); *Yodlee, Inc. v. CashEdge, Inc.*, No. C 05-01550 SI, 2006 WL 3456610 (N.D. Cal. Nov. 29, 2006) (Illston, J.) (“[The claims at issue] describe what the apparatuses do, when used a certain way. They do not claim *use* of the apparatuses”).

In addition, although Defendants cite *Typhoon Touch* to argue that “functional limitations are requirements that cannot be written out of the claims by construing them as mere capabilities,” that case is distinguishable here. In *Typhoon Touch*, the issue was related to the distinction between capability and configuration, whereas here, the distinction between

configuration and actual performance is at issue. *See Typhoon Touch Techs., Inc. v. Dell, Inc.*, No. 6:07-CV-546, Doc. No. 437, at 12 (E.D. Tex. July 23, 2009), *aff'd Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1381-82 (Fed. Cir. 2011) (“We discern no error in the district court’s view that this term requires that the device is programmed or configured to perform the stated function.”)

Defendants primarily rely on the prosecution history to argue that the patentee distinguished “using the at least one path...” and “to draw current via the at least one path...” to overcome the prior art, and therefore that the claims require actual use. (Doc. No. 100, at 12–13.) In the prosecution history, the patentee made the following statements: “although Davis et al. note usage of an Ethernet network, Davis et al. are completely silent with respect to the at least one path coupled across contacts used to carry Ethernet communication signals,” and “Blair et al. are unable to cure the deficiencies of Davis et al. and are completely silent with regard to using the recited contacts...” (Doc. No. 100-10, Jan. 15, 2014 Amendment at 26-27 (CMS050950-51).) While it is clear that the patentee distinguished the claims in view of the prior art with these remarks, in the full context of the statements made, it is also clear that the patentee indisputably distinguished the claims in light of the claimed structure: “path coupled across contacts...” *Id.* Indeed, there is no apparent significance imparted to the patentee’s use of the word “using” other than that the prior art Davis clearly noted “usage of an Ethernet network.” Given that the concept of “usage” was also discussed in the prior art, it is not clear the patentee was distinguishing the prior art based on usage. What is more likely is that the significance of these statements lies in the distinguished structure identified in the patentee’s remarks. Moreover, the prosecution history contains no definitive statements requiring actual performance. Accordingly, the Court finds the prosecution history unpersuasive in this regard.

Moreover, the Court finds the intrinsic record counsels against a construction requiring actual performance. For example, claim 1 of the '107 Patent recites “to draw different magnitudes of DC current flow...” ’107 Patent at 17:10–25 (Claim 1). Claim 12 of the '107 Patent, which depends from Claim 1, recites that “the piece of Ethernet terminal equipment is *actually drawing the DC current* via the at least one path.” ’107 Patent at 17:60–62 (Claim 12) (emphasis added). Here, where the dependent claim recites the further limitation of *actually* drawing the current, the doctrine of claim differentiation weighs in favor of finding that the independent claim which uses the infinitive to phrase—“to draw different magnitudes of DC current flow...”—does not require the action recited be *actually* performed. *See Phillips*, 415 F.3d at 1315 (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”); *Alcon Research, Ltd. v. Apotex Inc.*, 687 F.3d 1362, 1367 (Fed. Cir. 2012) (citing 35 U.S.C. § 112 ¶ 4) (“It is axiomatic that a dependent claim cannot be broader than the claim from which it depends . . . A dependent claim narrows the claim from which it depends.”); *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1334 (Fed. Cir. 2010) (“A person of ordinary skill would presume that a structure recited in a dependent claim will perform a function required of that structure in an independent claim.”).

For these reasons, the Court rejects Defendants’ proposal and finds that the “to” phrases do not require that the action claimed must occur to meet the limitation. Because the Court has expressly rejected the Defendants’ proposal that the action claimed must occur to meet the limitation and thereby resolved the parties’ claim scope dispute, the Court finds the term “to...” needs no further construction other than its plain and ordinary meaning.

**II. “current” / “current flow” (’107 Patent, Claims 1, 72, 104; ’760 Patent, Claims 1, 59, 73; ’838 Patent, Claims 1, 7, 26, 69)**

<b>Plaintiffs’ Proposal</b>	<b>Defendants’ Proposal</b>
No construction necessary, as the terms should be afforded their plain and ordinary meaning.  To the extent that the Court finds that construction is required, Plaintiffs contend that “current” and “current flow” mean the same thing and the plain and ordinary meaning of “current” and “current flow” is “a flow of electric charge”	“current” means flow of electrons.  “current” and “current flow” have different meanings; “[f]or the purpose of drawing DC current” describes the features of the path and “different magnitudes of DC current flow” requires that actual current must be present.  Dependent claim 72 of the ’107 patent is indefinite for lack of antecedent basis.

The primary dispute between the parties is whether the terms “current” and “current flow” have different meanings in the patents-in-suit. Plaintiffs argue that “[i]n this case, the patents use the terms ‘current’ and ‘current flow’ interchangeably.” (Doc. No. 97, at 8.) Defendants respond that “[t]he claims use ‘current’ to define structure while ‘current flow’ accompanies functional operations that the claimed invention is to perform.” (Doc. No. 100, at 8.)

As an initial matter, the parties do not dispute the meaning of the term “current” as the “flow of electrons/electric charge.” (Doc. No. 100, at 7.) The only dispute is whether the terms “current” and “current flow” have different meanings. Defendants’ argument is similar to their position regarding the infinitive “to...”, only here, Defendants argue that the term “current flow” is functional and therefore must be construed to include the further limitation of its operational use. (Doc. No. 100, at 9.) Thus, Defendants’ propose that the term “current flow,” “requires the actual presence of current flowing.” (Doc. No. 100, at 8.)

Here, the claims and the specification demonstrate that any distinction between “DC current” and “DC current flow” is a distinction without a difference. For example, claim 1 of the

'107 Patent, recites “at least one path for the purpose of drawing DC current” as well as a “piece of Ethernet terminal equipment to draw different magnitudes of DC current flow via the at least one path.” '107 Patent at 17:11–25 (Claim 1); *see also* '012 Patent at 7:17–21 (“High pass filters 60 and 62 block DC current flow...”), 7:40–42 (“High pass filter 86 blocks DC current...”), 7:48–50 (“High pass filter 100 blocks the DC current that flows from central module...”), 8:7–8 (“An interruption in the flow of current is detected...”), 8:52–53 (“it is within the scope of the invention to source current from the central module and alter the flow of current from within the remote module...”), 12:32–38 (“By way of a specific example, the high frequency information in the embodiment of FIGS. 4-8 operates in the range of about 10 Mb/s while the encoded signal sent from remote module 16a to central module 15a operates in the range of about 1200 bits per second. In other words, the altered current flow has changes and each change is at least 833 microseconds in duration...”). Tellingly, both parties agree that “current” includes by definition the concept of “flow.”

Defendants again try to make a distinction between these terms based on operational use through the prosecution history. (Doc. No. 100, at 9.) Here, Defendants cite to the fact that “flow” was added during prosecution to the phrase “different magnitudes of current flow,” but not for “at least one path for the purpose of drawing DC current.” (Doc. No. 100, at 9, citing Doc. No. 100-11, at CMS051035.) The Court acknowledges that the patentees introduced the word “flow” in this regard as part of amendments in which the patentees incorporated limitations from dependent claims that the examiner had found contained allowable subject matter. However, the prosecution history contains no definitive statements as to the significance of introducing the word “flow,” let alone that the claims require current to be presently flowing. Indeed, there is no indication that this term was added to distinguish an operational state, which

was clearly known in the prior art, over the prior art. For these reasons, the Court rejects Defendants’ argument that the phrase “current flow” necessarily “requires the actual presence of current flowing.”

Finding no discernible distinction between the terms as recited in the patents-in-suit, the Court construes the terms **“current”** and **“current flow”** to mean **“a flow of electric charge.”**

**III. “BaseT” (’012 Patent, Claims 36, 56, 60; ’107 Patent, Claim 5; ’760 Patent, Claims 1, 31, 59, 69, 72, 73, 106, 142, 145; ’838 Patent, Claim 1)**

Plaintiffs’ Proposal	Defendants’ Proposal
<p>No construction necessary, as the term should be afforded its plain and ordinary meaning.</p> <p>To the extent that the Court finds that construction is required, Plaintiffs contend that the proper term to be construed is “BaseT Ethernet” and its plain and ordinary meaning is “twisted pair Ethernet per the IEEE 802.3 Standards (e.g. 10BaseT/IEEE 802.3i, 100BaseTX/IEEE 802.3u, and 1000BaseT/IEEE 802.3ab)”</p>	<p>10BASE-T, which requires communication over twisted pair cabling at 10 Mb/s</p>

The parties dispute the scope of BASE-T networks over which the term “BaseT,” as claimed in the patents-in-suit, can apply. Plaintiff contends that “BaseT” is a known term of art that requires no construction, but if it is to be construed that it covers communication over twisted pair cabling at 10Mb/s, 100Mb/s, and 1000Mb/s. (Doc. No. 97, at 9.) Defendants contend the term is limited to 10Mb/s BASE-T networks. (Doc. No. 100, at 23.) Plaintiffs argue that “[b]y stating that steps must be taken when the invention is used with a 10BaseT Ethernet network, the patent clearly implies that it can also be used with other BaseT Ethernet networks.” (Doc. No. 97, at 10 (citing ’012 Patent at 12:9–22).) Defendants respond that “‘BaseT’ is not a “term of art,” but rather “is a coined term” that “should therefore be construed in the context of the sole system disclosed.” (Doc. No. 100, at 22–23.) Plaintiffs contend that “the root term



‘BaseT’ would have been understood to refer at least to the three IEEE 802.3 BASE-T standards known at the time of the invention.” (Doc. No. 108, at 7.)

Here the relevant claims recite the term “BaseT” without anything further. *See, e.g.*, ’012 Patent, Claims 36, 56, 60; ’107 Patent, Claim 5; ’760 Patent, Claims 1, 31, 59, 69, 72, 73, 106, 142, 145; ’838 Patent, Claim 1. As an initial matter, the specification and the prosecution history are entirely devoid of any special definition of the term “BaseT” that would require a unique construction under these circumstances. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (a patentee acts as his own lexicographer only when he “clearly set forth a definition of the disputed term.”). The parties do not dispute that it was commonly known that “Base” refers to baseband and “T” designates twisted pair cabling, and that “BASE-T” standards were known in the art at the time of invention. The parties only dispute whether the operational speed is limited to 10Mb/s. In this regard, the specification is informative.

For example, the specification discloses implementation “when the invention is used with an Ethernet 10BASE-T network” ’012 Patent at 12:13–24. This disclosure implies that the claimed invention may be used with other types of networks. Further, the specification discloses that “[t]he system is particularly suitable for high-frequency networks such as Ethernet operating at speeds of 10 megabits per second (Mb/s) *and higher*.” ’012 Patent at 12:1–6 (emphasis added). Thus, the specification indicates the invention is not limited to operating speeds of only 10Mb/s.

The scope of the term, however, is not unlimited as Plaintiffs suggest, but rather must be interpreted with regard to what was known in the art at the time. *Markman*, 52 F.3d at 1003. Here, the ’012 Patent cites references regarding 100BASE-T and 1000BASE-T. *See* ’012 Patent at 7. However, while these references are cited in the ’012 Patent, both parties’ experts agree

that the 1000BASE-T standard, and its adoption by the IEEE, post-dates the provisional application priority date. *See* Doc. No. 100, Ex. 4, Jan. 21, 2016 Siefert Decl. at ¶ 150; *see also id.*, Ex. 6, Jan. 20, 2016, Baxter Deposition, at 147:15–19. Thus, although many “BASE-T” standards have arisen after the priority date of the patents-in-suit, the term “BaseT” corresponds to then-established 10BASE-T and 100BASE-T standards. *See Trs. of Columbia Univ. in City of N.Y. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016) (“The only meaning that matters in claim construction is the meaning in the context of the patent.”); *PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1363 (Fed. Cir. 2005) (“meaning must be interpreted as of [the] effective filing date”); *Kopykake Enters., Inc. v. Lucks Co.*, 264 F.3d 1377, 1383 (Fed. Cir. 2001) (“[W]hen a claim term understood to have a narrow meaning when the application is filed later acquires a broader definition, the literal scope of the term is limited to what it was understood to mean at the time of filing.”) (citation omitted). Accordingly, the Court must reject Plaintiffs’ proposal that all after-arising BASE-T standards are included within the scope of “BaseT.”

For these reasons, the Court construes the term **“BaseT”** to mean **“twisted pair Ethernet in accordance with the 10BASE-T or 100BASE-T standards.”**

**IV. “powered off” / “powered-off Ethernet terminal equipment” / “powered-off end device” (’107 Patent, Claims 103, 104, 111, 125; ’760 Patent, Claims 72, 145)**

<b>Plaintiffs’ Proposal</b>	<b>Defendants’ Proposal</b>
“Ethernet terminal equipment/end device without its operating power”	no power is applied to the claimed equipment/device

The parties dispute whether the term “powered off” means no applied power or simply no operational power. Plaintiffs analogize that “[a] television, for example, is a ‘powered-off end device’ when it is turned off, even though it remains connected to AC power and current still

flows through some of its components to allow the remote control to turn it on.” (Doc. No. 97, at 20.) Defendants argue that “[t]here is no support for a low power mode in the specification.” (Doc. No. 100, at 21–22.) Plaintiffs, however, contend that “Defendants do not dispute that the claims and the disclosed embodiments all require that low levels of DC current must be supplied to detect the devices. . . .” (Doc. No. 108, at 8.)

Here, the claims themselves indicate that the term “powered-off” does not mean entirely removed from the application of power because the claims recite the “powered-off end device” as able to draw DC current. For example, claim 104 of the ’107 Patent recites in relevant part: “the powered-off end device to draw different magnitudes of DC current flow.” ’107 Patent at 22:17–29 (Claim 104). Defendants’ proposal requiring that no power is applied to the claimed device is thus at odds with the claim language itself. In addition, the specification discusses the desirability of monitoring assets that are not “powered-up” or not “connected to alternating current (AC) power.” See ’012 Patent at 1:58–65 (“Asset tracking and management software is limited in a number of important areas...it cannot detect the physical location of equipment, the identifying name of equipment is not permanent, and the monitored assets must be powered-up.”), 2:5–8 (“It would also be desirable to communicate with the device without requiring the device or the asset to be connected to alternating current (AC) power.”); *see also id.* at 3:3–14, 4:65–67 (“The asset aware patchpanel would then be capable of identifying the existence and location of network assets without power being applied to the assets.”), 12:48–50 (“Additionally, the system provides a means for permanently identifying the location of network assets without applying power to the assets.”). These disclosures suggest the invention is intended to operate and carry out particular functions when it is not “powered-up.”

For these reasons, the Court construes the term **“powered off”** to mean **“without operating power.”**

**V. “loop formed over” (’760 Patent, Claims 1, 73)**

<b>Plaintiffs’ Proposal</b>	<b>Defendants’ Proposal</b>
<p>No construction necessary, as the term should be afforded its plain and ordinary meaning.</p> <p>To the extent that the Court finds that construction is required, Plaintiffs contend that the plain and ordinary meaning of “loop formed over” is “a round trip path formed over [at least one of the conductors of the first pair of conductors and at least one of the conductors of the second pair of conductors]”</p>	<p>a round trip path formed over</p> <p>Alternatively: a complete circuit that includes [at least one of the conductors of the first pair and at least one of the conductors of the second pair]</p>

At the claim construction hearing, the Court proposed that the term “loop formed over” be construed as “a round trip path formed over.” The parties indicated agreement to this construction. Accordingly, the Court construes the term **“loop formed over”** as **“a round trip path formed over.”**

**VI. “path coupled across” (’012 Patent, Claim 31; ’107 Patent, Claims 1, 104)**

<b>Plaintiffs’ Proposal</b>	<b>Defendants’ Proposal</b>
<p>No construction necessary, as the term should be afforded its plain and ordinary meaning.</p>	<p>path permitting energy transfer between [the claimed contacts]</p>

Plaintiffs argue that “Defendants’ construction does not clarify the term, nor does it refine the scope of what is covered by the claim; if anything, adopting it would risk creating vagueness and confusion.” (Doc. No. 97, at 17.) Defendants argue that their proposed construction “is based upon the agreed understanding of both parties’ experts during claim construction discovery.” (Doc. No. 100, at 4.) Plaintiffs respond that “construing the term would be improper precisely because there is no dispute about its plain-and-ordinary meaning.” (Doc. No. 108, at 10.)

There is no fundamental dispute as to the understood meaning of the term “path coupled across,” as both parties’ experts agree to its meaning. *See* Doc. No. 97, Ex. E, Dec. 17, 2015 Baxter Decl. at ¶¶ 88-93; *see also* Doc. No. 100, Ex. 4, Jan. 21, 2016 Seifert Decl. at ¶¶ 108-109. At the hearing, Plaintiffs indicated their concerns with Defendants’ constructions were that that: (1) the use of the term “permitting” in Defendants’ construction requires use; and (2) “energy transfer” is an additional term that would have to be explained to the jury when the plain language of the claims makes this point easily understood. Defendants articulated their concern that Plaintiffs interpret the “path” to be merely designed to or capable of doing what is claimed. Thus, the parties’ dispute appears again to be one of whether something is actually in use or capable of being used.

Here, the claims are explicit with regard to the claimed path. For example, claim 104 of the ’107 Patent recites in relevant part “at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts, the powered-off end device to draw different magnitudes of DC current flow via the at least one path.” ’107 Patent at 22:17–29 (Claim 104). Thus, the claim makes clear that the claimed path is “for the purpose of drawing

DC current,” and the Court already resolved this dispute with regard to the phrase “to draw different magnitudes of DC current flow via the at least one path.” Moreover, the experts have agreed upon the plain meaning of the term as it would be understood to a person of ordinary skill in the art. *See* Baxter Decl. at ¶ 89 (opining that “coupling” can be correctly characterized as “[a] mutual relationship between two circuits that permits energy transfer from one to the other.”); Seifert Decl. at ¶¶ 107, 108 (“I agree that “coupling” or “coupled circuit” can be defined as allowing energy transfer between points along the specified path.” ... “In the context of the claims, “couple” is used as a verb to connote that a signal will travel along the claimed path from one claimed contact to the other...”)). The Court finds this understanding consistent with the manner in which the “path coupled across” is used in claims as discussed above. Accordingly, the Court construes the term **“path coupled across”** to mean **“path permitting energy transfer.”**

### **CONCLUSION**

For the foregoing reasons, the Court adopts the constructions set forth above.

**So ORDERED and SIGNED this 28th day of March, 2016.**

  
JOHN D. LOVE  
UNITED STATES MAGISTRATE JUDGE